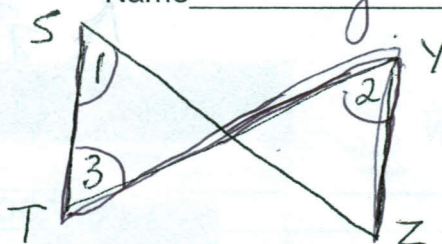


Proofs Practice Ch.3
Honors Geometry

Name Key

- 1) **Given:** $\angle 2 \cong \angle 1$
 $\angle 1 \cong \angle 3$

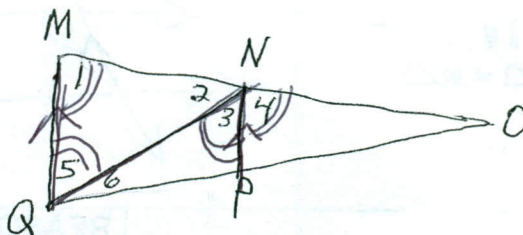
Prove: $\overline{ST} \parallel \overline{YZ}$



STATEMENTS	REASONS
1. $\angle 2 \cong \angle 1$	1. Given
2. $\angle 1 \cong \angle 3$	2. Given
3. $\angle 2 \cong \angle 3$	3. Substitution or Trans.
4. $\overline{ST} \parallel \overline{YZ}$	4. Converse of Alt. Int. \angle Thm

- 2) **Given:** $\overline{MQ} \parallel \overline{NP}$
 $\angle 4 \cong \angle 3$

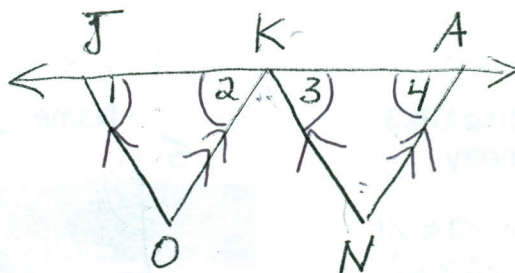
Prove: $\angle 1 \cong \angle 5$



STATEMENTS	REASONS
1. $\overline{MQ} \parallel \overline{NP}$	1. Given
2. $\angle 1 \cong \angle 4$	2. Corresponding Angles Post.
3. $\angle 5 \cong \angle 3$	3. Alternate Interior Angles Thm.
4. $\angle 4 \cong \angle 3$	4. Given
5. $\angle 1 \cong \angle 5$	5. Substitution / Transitive

3) Given: $\overline{JO} \parallel \overline{KN}$
 $\angle 1 \cong \angle 2$
 $\angle 3 \cong \angle 4$

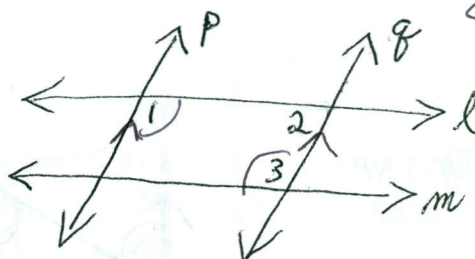
Prove: $\overline{KO} \parallel \overline{AN}$



STATEMENTS	REASONS
1. $\overline{JO} \parallel \overline{KN}$	1. Given
2. $\angle 1 \cong \angle 3$	2. Corresponding Angles Post.
3. $\angle 1 \cong \angle 2$	3. Given
4. $\angle 3 \cong \angle 4$	4. Given
5. $\angle 4 \cong \angle 2$	5. Substitution/Transitive
6. $\overline{KO} \parallel \overline{AN}$	6. Converse of Corresponding Angles Postulate

4) Given: $p \parallel q$
 $m\angle 1 = m\angle 3$

Prove: $l \parallel m$



STATEMENTS	REASONS
1. $p \parallel q$	1. Given
2. $\angle 1$ and $\angle 2$ are supplem.	2. Same-Side Interior Angles Thm.
3. $m\angle 1 + m\angle 2 = 180$	3. Definition of Supplementary Angles
4. $m\angle 1 = m\angle 3$	4. Given
5. $m\angle 2 + m\angle 3 = 180$	5. Substitution
6. $\angle 2$ and $\angle 3$ are suppl.	6. Def. of Supplementary Angles
7. $l \parallel m$	7. Converse of Same-Side Interior Angles Thm